

AMENDMENTS TO THE CLAIMS

Please cancel claims 1-27. Please add new claims 28-34 as indicated below.

1-27 (cancelled)

28. (new) A method for fabricating an MR sensor comprising:
depositing a bottom resist layer on a substrate, the bottom resist layer comprising a first polymer;
depositing a top resist layer on the bottom resist layer, the top resist layer comprising a second polymer, wherein the second polymer comprises a deep ultraviolet resist;
exposing the top resist layer to energetic particles in a bridge pattern defining a trackwidth of the MR sensor;
developing the exposed top resist layer with a second developer; and
etching the bottom resist layer in a first developer to form a fully undercut resist bridge structure suspended above the substrate, wherein the resist bridge has a width narrower than 0.2 micron.

29. (new) The method of claim 28, wherein the first and second developers are identical.

30. (new) The method of claim 28, wherein:
the substrate is a magnetoresistive layer structure;
the method further comprising:
ion beam milling the magnetoresistive layer structure to form the magnetoresistive sensor, wherein the magnetoresistive sensor has a trackwidth narrower than 0.2 microns.

31. (new) The method of claim 28, wherein:
the substrate is a magnetoresistive layer structure;
the method further comprising:
ion beam milling the magnetoresistive layer structure to form the magnetoresistive sensor, wherein the magnetoresistive sensor has a trackwidth to thickness ratio of less than or equal to 4 to 1.

32. (new) A method for fabricating an MR sensor comprising:
depositing a bottom resist layer on a substrate, wherein the substrate is a magnetoresistive layer structure and the bottom resist layer comprises a first polymer;
depositing a top resist layer on the bottom resist layer, the top resist layer comprising a second polymer;
exposing the top resist layer to energetic particles in a bridge pattern defining a trackwidth of the MR sensor;
developing the exposed top resist layer with a second developer;
etching the bottom resist layer in a first developer to form a fully undercut resist bridge structure suspended above the substrate, wherein the resist bridge has a width narrower than 0.2 micron; and

ion beam milling the magnetoresistive layer structure to form the magnetoresistive sensor, wherein the magnetoresistive sensor has a trackwidth narrower than 0.2 microns.

33. (new) A method for fabricating an MR sensor comprising:
depositing a bottom resist layer on a substrate, wherein the substrate is a magnetoresistive layer structure and the bottom resist layer comprises a first polymer;
depositing a top resist layer on the bottom resist layer, the top resist layer comprising a second polymer;
exposing the top resist layer to energetic particles in a bridge pattern defining a trackwidth of the MR sensor;
developing the exposed top resist layer with a second developer;
etching the bottom resist layer in a first developer to form a fully undercut resist bridge structure suspended above the substrate, wherein the resist bridge has a width narrower than 0.2 micron; and
ion beam milling the magnetoresistive layer structure to form the magnetoresistive sensor, wherein the magnetoresistive sensor has a trackwidth to thickness ratio of less than or equal to 4 to 1.

34. (new) The method of claim 33, wherein the magnetoresistive sensor has a trackwidth narrower than 0.2 microns.